RESERVE COPY

PATENT SPECIFICATION

191,409

Application Date: July 12, 1918. No. 11,445/18.

Accepted: Aug. 9, 1918 (but withheld from Publication under Section 30 of Patents and Designs Acts, 1907 and 1919).

Authorised to be Published: Dec. 13, 1922. Date of Publication: Feb. 8, 1923.

COMPLETE SPECIFICATION.

Improvements in Rockets.

I, Archibald Montgomery Low, Captain in His Majesty's Army, of Royal Air Force Experimental Works, Feltham, in the County of Middlesex, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

This invention relates to rockets and has for its object to devise an improved form of rocket which may be used with advantage in conjunction with life-saving apparatus and the like or with good moral and destructive effect against hostile aircraft.

The invention consists broadly in a dirigible rocket.

The invention also consists in a rocket provided with one or more rudders adapted to be operated by means under either direct or wireless electrical control.

The invention also consists in the improved form of rocket hereinafter described.

The accompanying drawing illustrates in perspective one convenient form of rocket constructed and arranged in accordance with the invention.

In carrying my invention into effect in one convenient manner, I form the body portion *a* of my improved rocket somewhat in the usual manner providing in conjunction therewith if desired the deflecting cowl *b* and gas outlet apertures *c*, and it will be understood that any suitable means may be adopted for propelling the rocket while the internal structure as regards explosive and/or incendiary charge may be more or less as is usual in connection with devices of this character.

For the purpose of enabling the rocket to be used with effect in connection with life-saving apparatus or in other situations where the direction of flight may be an important consideration, or to enable the rocket to be used with good moral and destructive effect against hostile aircraft, for example, I arrange the rocket to be dirigible in any suitable manner so that its direction of flight may be controlled for the purpose of enabling the rocket to pursue a hostile airman, or in order to provide that a lifeline or the like secured to the rocket may be properly directed.

In the example illustrated, the rear end of the rocket is provided with two vanes or rudders *d e* so mounted and arranged that they may be rotatable about axes at right angles to one another and in the interior of the rocket preferably at the base end thereof adjacent to the rudders or the like I provide polarised magnets or electromagnetic relays or other suitable devices by means of which under electrical control the rudders or vanes may be actuated, so that the rocket may be caused to veer either to the right or to the left or upwards or downwards or in and direction compounded of any two of the foregoing directions. The relays or the like may be under wireless control, or as shown in the drawing the control may be effected by direct electrical connection with the ground, such connection being made by means of a plurality of fine wires *f* (of which three are shown in the drawing) such wires being conveniently twisted together and being of as light section as possible for permitting of the greatest possible length of wire capable of being unwound if required during the flight of the rocket. The wires are led into the interior of the rocket to be connected to the various devices which are to be electrically controlled and prior to discharge of the rocket may be wound upon any form of support or in any suitable manner which will permit of the rapid paying out of the wire so that the same may not act as a drag upon the travel of

[*Price* 1/-] Price 4s 6d

the rocket. At the fixed end of the wire I may provide in circuit therewith any suitable source of electrical energy and by means of two or more keys each of which may be capable of occupying one or other of two or more positions I arrange for the control of the rudders or other directing members upon the rocket, and I may also provide for the electric firing of the rocket at the moment when such is required, it being convenient that the electrical connections should be so arranged that a stronger current may be sent in order to effect a firing of the rocket than that which is required for the control of its direction.

As stated above, the control of the rocket and also the firing of the same may be effected by wireless means and it is to be understood that the invention is not to be confined to any particular type or construction of rocket, nor to any particular method by which the same is to be propelled, as it will be obvious that the invention may be applied with equal effect and like advantage to any usual or desired form of rocket and is not in any way dependent upon the purpose for which the rocket is to be employed.

Having now particularly described and ascertained the nature of my said invention, and in what manner the same is to be performed, I declare that what I claim is:—

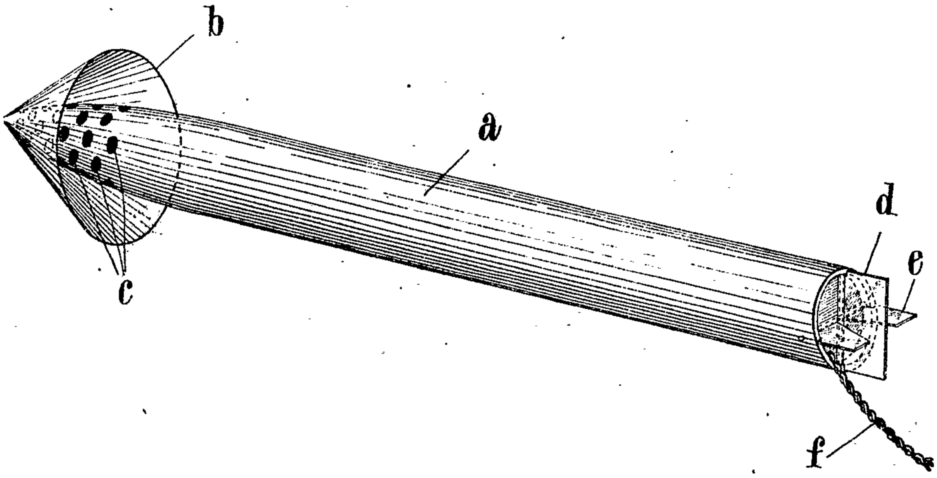
1. A dirigible rocket.
2. A rocket provided with one or more rudders or directing members adapted to be operated by means under either direct or wireless electrical control.
3. A rocket as claimed in Claim 1 or 2, adapted to be fired or exploded by direct or wireless electrical means.
4. An improved rocket substantially as hereinbefore described and as illustrated by the accompanying drawing.

Dated this 24th day of June, 1918.

MARKS & CLERK.

Redhill: Printed for His Majesty's Stationery Office, by Love & Malcomson, Ltd.—1923.

[This Drawing is a reproduction of the Original on a reduced scale.]



Malby & Sons, Photo-Litho